

Serial No.: 10/048,404
Eclipse Group: H103027USU(P02017US)

REMARKS

Claims 1-8 and 11-14 are currently pending in the present application and Applicant is traversing the rejection. Applicant believes that no new matter has been added in this response and that the claims are in condition for allowance or for appeal.

Response to Specification Objection

The Examiner objected to the specification amendments filed 20 April 2004 because of new matter. Specifically, the Examiner stated that “[t]he control curves 106, 108, 110, and 112 being formed specifically as convex curves relative to the centerline 114. This new material caused the least energy curve(s) surface to be formed in a spherical shape (definition of convex), which doesn’t appear to be supported by the original specification.”

Applicant previously amended the specification to recite; “[i]n the exemplary embodiment shown in FIG. 1, control curves 106, 108, 110 and 112 are convex relative to the centerline 114.” Thus, the Applicant is describing the control curves relative to the centerline being convex. Convex is defined in the *Websters’s New Universal Unabridged Dictionary, Deluxe Second Edition*, copyright 1983, on page 400 as “having a surface that curves outward, like the surface of a sphere.” Thus, convex is a surface that curves outward and an example is given in the diction as like the surface of a sphere. In two dimensions, it is geometry that convex must be a curve that curves outward. Even the Examiner’s definition is only “spherical shape” and not a sphere.

It is true that every portion of a sphere is convex, but it is not true that every convex surface is a portion of a sphere. Thus, describing the curves in the exemplary embodiment as convex (i.e. curving outward relative to the centerline) is proper and is not adding new matter.

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Therefore, Applicant does not need to cancel the previous amendments to the specification and the objection to the specification has been overcome.

Response to 35 U.S.C. §112, First Paragraph

The Examiner under 35 USC 112, First paragraph, rejected claims 1-8 and 11-14. Specifically, the Examiner found claims 1-8 and 11-14 contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Examiner goes on to cite the previously amended specification matter. Applicant's claim 1-8 does not contain the convex description that is being objected to the Examiner. Thus, claims 1-8 are in condition for allowance. As described above, new matter was not added to the specification and the definition of convex being a portion of a spear is improper. Thus, the 35 U.S.C §112 rejection of claims 11-14 is moot.

Response to 35 U.S.C §102 Rejections

Levy et al:

The Examiner rejects claim 1-8 and 11-14 under 35 U.S.C. §102(b) as being anticipated by Levy et al. (U.S. Patent No. 2,690,231, hereafter the Levy Patent). The Examiner relies on figures 1-3 of the Levy to show "a continuous three-dimensional least energy surface" as claimed by the Applicant in independent claims 1, 7, 12, 13, and 14.

Applicant respectfully points out that the Levy patent does not use the term or describe any "least energy surface." The Levy patent at column 3, lines 8-16 describe:

"It will be observed that in the second chamber where the lateral walls 12b are disposed horizontally or at most have only a slight flare, vertical expansion of the sound waves is largely prevented and this restriction on vertical expansion builds up pressure which serves to add energy to and aid the dispersion of the

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sound waves in a horizontal direction which, due to the flaring of the vertical walls 14b, is relatively unopposed.”

Thus, the Levy patent is describing vertical expansion of the sound waves being prevented and this RESTRICTION on vertical expansion builds up pressure. If there is a restriction on the vertical expansion, then a least-energy-surface is not being described.

A least-energy-surface is described in Applicant's specification at page 5, lines 21-25 as; “a surface that passes through the specified controlling geometry in a manner that provides the minimum change in curvature when the rate of change of local curvature change is integrated in the mathematical sense (summed) over the entire surface. Alternately, the least-energy-surface may be mathematically one of the simplest equations representing the surface.” The Levy patent does not have a minimum change in curvature as required in the definition of the least-energy-surface. Rather, the Levy patent describes curves that define two chambers each having a different rate of curvature where one chamber restricts the vertical expansion.

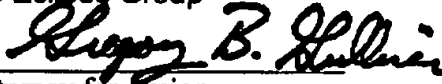
Therefore the Levy patent fails to teach or describe the least-energy-surface element as claimed by the Applicant and claims 1-8 and 11-14 are in condition for allowance.

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Conclusion

In view of the foregoing discussion, Applicant respectfully submits that claims 1-8 and 11-14, as presented are in a condition for allowance or are in condition for appeal and action is earnestly solicited.

Respectfully submitted,
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